



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/892,902	07/14/1997	CLINTON P. WALLER JR.	53473USA1A	7374

7590

04/12/2002

JOHN H HORNICKEL
3M OFFICE OF INTELLECTUAL
PROPERTY COUNSEL
P O BOX 33427
ST PAUL, MN 551333427

EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT

PAPER NUMBER

1774

33

DATE MAILED: 04/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

1.2-33

Office Action Summary

Application No.
08/892,902

Applicant(s)
Clinton P. WALLER Jr. et al.

Examiner
M. Yamnitzky

Art Unit
1774



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 18, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 10-14, 16, 18, 19, 21-35, 39, and 41-52 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 5, 10-14, 16, 18, 19, 21, 23, 24, and 41-43 is/are allowed.
- 6) ☒ Claim(s) 22, 25-35, 39, and 44-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Art Unit: 1774

1. This Office action is in response to the Rule 132 Declaration of Clinton P. Waller, Jr. and applicants' amendment received 01/18/02 with a certificate of mailing dated 12/21/01 (Paper Nos. 31 and 32).

The amendment cancels claims 37, 38 and 40, amends claims 22, 26, 30, 33 and 39, and adds claims 44-52.

Claims 1, 5, 10-14, 16, 18, 19, 21-35, 39 and 41-52 are pending.

2. Claims 1, 5, 10-14, 16, 18, 19, 21, 23, 24 and 41-43 stand allowed.

3. Claims 46-49 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The application as originally filed does not provide support for the pore size limitation set forth in new claims 46-49. Applicants point to page 10, line 26, page 11, line 14 and page 11, line 28 to page 12, line 2 of the specification as providing support for the new claims. The examiner does not find the ranges set forth in new claims 46-49 at any of the indicated portions of the specification or elsewhere in the original disclosure.

Art Unit: 1774

4. Claims 29-31 and 46-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "the anionic surfactant" as recited in claim 29 with claim 31 dependent therefrom. Claim 29 depends from claim 22, and claim 22 has been amended by applicants to delete the requirement that the surfactant be an "anionic" surfactant. The surfactant required by claim 22 may be any surfactant.

Claim 30 is confusing in reciting "further comprising" a silicon-based non-ionic surfactant. Claim 30 depends from claim 22 which requires a surfactant but does not limit the identity of the surfactant. In reciting "further comprising", it is not clear if claim 30 is limiting the surfactant required by claim 22 to a silicon-based non-ionic surfactant, or if claim 30 is requiring two different surfactants, one of which is a silicon-based non-ionic surfactant.

The open-ended ranges set forth in claims 46-49 render these claims indefinite because the upper limit for the pore size is unknown.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1774

6. Claims 22, 25-28, 32-35 and 48-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (5,500,668) in view of Carreira et al. (5,220,346).

The patent to Carreira et al. is totally incorporated by reference by Malhotra et al. (see column 26, lines 26-29 of the Malhotra patent).

Malhotra et al. disclose a recording sheet comprising a salt of a metal cation and an acid anion. Various multivalent metal cations are taught at c. 12, l. 49-57. Counterions (anions) of the group set forth in present claim 25 are disclosed by Malhotra et al. (e.g. see c. 12, l. 58 - c. 13, l. 1 and c. 14, l. 18).

The composition comprising the salt may be applied to various substrates including paper and Teslin™, available from PPG industries (e.g. see c. 11, l. 28-56) in order to make the recording sheet. Malhotra et al. teach that the composition may also comprise betaine. For example, see c. 25, l. 1-13. Betaine is a surfactant. Malhotra et al. teach that the substrate is preferably porous (c. 12, l. 17-22). Application of the composition comprising the salt and betaine to a porous substrate will inherently impregnate the salt and betaine into pores of the porous substrate.

It is the examiner's understanding that microporous polypropylene membranes are sold under the tradename of "Teslin".

A "Teslin" substrate, disclosed by Malhotra et al., is considered to meet the additional limitations of claims 26-28 and 32 and the limitations with respect to the membrane of a synthetic polymer as set forth in independent claims 50 and 51. Claims 27, 28, 32, 50 and 51 limit the

Art Unit: 1774

membrane to a membrane made by a specific method. The method limitations do not patentably distinguish the membrane from microporous membranes sold under the tradename of "Teslin" absent a showing of differences in the membrane itself. Even if there are differences between microporous membranes sold under the tradename of "Teslin" and a microporous membrane as required by claims 27, 28, 32, 50 and 51 (other than differences in method of production), the porous membranes required by the present claims are commercially available. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to select a suitable porous substrate from commercially available substrates based on the properties that a particular porous substrate would lend to the final product.

With respect to the pore size limitations of claims 48 and 49, it is the examiner's position that it would have been within the level of ordinary skill of a worker in the art at the time of the invention to select a porous substrate from commercially available substrates having suitable pore sizes for use as a recording sheet.

With respect to claims 34, 35 and 39, Malhotra et al. clearly suggest (if not anticipate) the limitations of an image formed from pigmented ink, and a method in which a pigmented ink is delivered to a receptor medium. The Malhotra patent incorporates by reference the Carreira patent. Carreira et al. disclose pigmented ink jet inks and ink jet printing processes using such inks (e.g. see c. 6, l. 47 to c. 7, l. 57). In addition, Malhotra et al. teach that the recording sheets can be used in other printing processes such as "printing with pen plotter, handwriting with ink

Art Unit: 1774

pens, offset printing processes” (c. 26, l. 30-35). Any of these processes wherein a pigmented ink is used would provide a pigmented ink image on the receptor medium.

7. Claims 29-31, 39, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhotra et al. (5,500,668) in view of Carreira et al. (5,220,346) as applied to claims 22, 25-28, 32-35 and 48-52 above, and further in view of Kojima et al. (5,677,067).

Malhotra et al. teach that the composition may comprise betaine. Betaine is a surfactant, though not an anionic surfactant as required by present claims 29, 31, 39, 44 and 45, and not a silicon-based non-ionic surfactant as required by present claim 30. The use of anionic and non-ionic surfactants instead of, or in addition to, a surfactant such as betaine was known in the art at the time of the invention as demonstrated by the patent to Kojima et al.

Kojima et al. disclose ink jet recording sheets and disclose the use of surface active agents. Kojima et al. teach that the “surface active agents may be any of anionic type, cationic type, nonionic type and betaine type” and teach that two or more surface active agents may be used in combination (e.g. see c. 4, l. 27-39). Absent a showing of criticality for an anionic surfactant or for a silicon-based non-ionic surfactant, and absent a showing of superior/unexpected results associated with the use of these surfactants versus other types of surfactants, it is the examiner’s position that it would have been within the level of ordinary skill of a worker in the art at the time of the invention to include additional additives known in the art in Malhotra’s recording sheet. In addition, the examiner notes that while Malhotra et al. do not explicitly teach

Art Unit: 1774

the use of an anionic "surfactant", Malhotra et al. do not exclude the use of an anionic surfactant. Some of Malhotra's monomeric salts are known anionic surfactants (e.g. dioctyl sulfosuccinate sodium salt - disclosed by Malhotra et al. at c. 17, l. 44-45).

In addition, impregnation of an ink containing an anionic or non-ionic surfactant into the pores of a porous substrate would inherently impregnate the pores with an anionic or non-ionic surfactant. Carreira et al. disclose ink jet inks and printing processes using the inks. Carreira's inks may be pigmented inks (e.g. see c. 6, l. 47 to c. 7, l. 57) and may also contain surfactants which may be cationic, anionic or nonionic (see c. 7, l. 58 to c. 8, l. 6). Malhotra et al., in incorporating the Carreira patent by reference, clearly suggest (if not anticipate) impregnation of the pores of the substrate with a pigmented ink containing an anionic or non-ionic surfactant.

8. Applicants' arguments filed 01/18/02 regarding the Malhotra, Carreira and Kojima patents have been fully considered along with the Rule 132 Declaration of Clinton P. Waller, Jr. but they are not persuasive.

The examiner respectfully disagrees with applicants' argument that there is no teaching or suggestion that Malhotra's recording sheets are suitable for imaging using pigmented inks. It is the examiner's position that the Malhotra patent clearly suggests an inkjet receptor medium suitable for imaging with a pigmented ink since the Malhotra patent incorporates by reference the Carreira patent and Carreira et al. disclose pigmented ink jet inks and ink jet printing processes using such inks. Malhotra et al. also teach that the recording sheets can be used in other printing

Art Unit: 1774

processes, and the other printing processes disclosed by Malhotra et al. are not explicitly limited to processes utilizing a dye-based ink.

With respect to applicants' various arguments that a fluid management system for use with dye-based inks may not be appropriate for use with pigmented-based inks, and a recording sheet suitable for use with dye-based inks may not necessarily be suitable for use with pigmented-based inks, the evidence submitted in the form of a Rule 132 Declaration is not commensurate in scope with the rejected claims. It is the examiner's position that the proffered evidence does not demonstrate that Malhotra's recording sheets are necessarily not suitable for use with pigmented-based inks. Present claims 34, 35 and 39 are the only claims which explicitly require a pigmented ink. These claims, as well as the other rejected claims, place no positive limitation on the type of image or the quality of the image which must be provided by a pigmented ink if/when a pigmented ink is used to form an image. For example, the image provided with a pigmented ink need not be a multi-colored photographic quality image. If something as simple as a line or a dot can be imaged on the prior art recording sheets with a pigmented ink, the prior art recording sheets have been imaged with a pigmented ink. The examiner also notes that the present claims place no positive limitation on the properties of an imaged recording sheet. For example, there is no requirement that any image placed on the receptor medium maintain its initial appearance after washing the image under running water.

Art Unit: 1774

9. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
04/11/02



MARIE YAMNITZKY
PRIMARY EXAMINER

1774